Section 6-1: Angles of Polygons

By the end of this lesson, you should be able to answer:
- How do you find and use the sum of the measures of the interior angles of a polygon?
- How do you find and use the sum of the measures of the exterior angles of a polygon?

Define the following:
1. Diagonal

Theorems:
6.1 - Polygon Interior Angles Sum

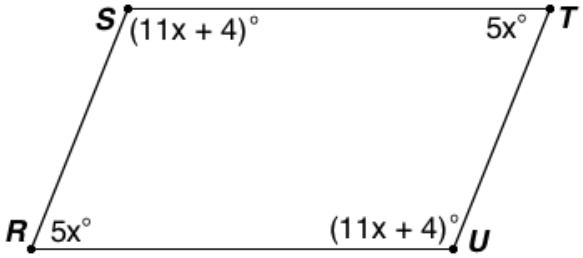
6.2 - Polygon Exterior Angles Sum

Types of Polygons					
# sides	3	4	5	6	7
Name					

Types of Polygons					
# sides	8	9	10	12	*n*
Name					

Example 1: Find the sum of the measures of the interior angles of the following.
a. Nonagon b. 17-gon

Example 2: Find the measure of each interior angle of parallelogram *RSTU*.

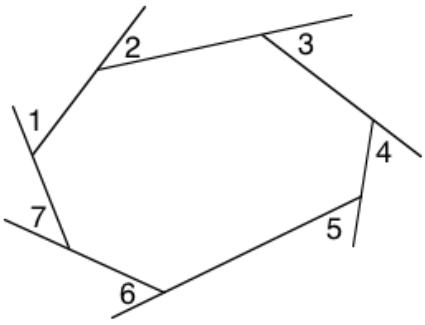


Example 3: Park City Mall is designed so that eight walkways meet in a central area in the shape of a regular octagon. Find the measure of one of the interior angles of the octagon.

http://www.parkcitycenter.com/directory

Example 4: The measure of an interior angle of a regular polygon is 150°. Find the number of sides in the polygon.

Example 5: Find the value of *x* in the diagram.
$m\angle 1 = 5x + 5$, $m\angle 2 = 5x$, $m\angle 3 = 4x - 6$, $m\angle 4 = 5x - 5$,
$m\angle 5 = 4x + 3$, $m\angle 6 = 6x - 12$, $m\angle 7 = 2x + 3$



Problem Set:

"They can because they think they can." - Virgil